EPA/NSF 1996 Grant Awards
Decision Making and Valuation for Environmental Policy

EPA Funded Grant Title	Principle Investigator	Project Description
Stated Preference Valuation Using Real Money for Real Forested Wetlands. Award: $165,081 Research Area: Ecosystem Valuation	Dr. Stephen Swallow, University of Rhode Island	The objectives of this proposed project are threefold: (1.) to identify critical forested wetland ecosystem attributes that contribute to ecological quality, (2.) to develop a model of public preferences for alternative attributes of wetlands using Rhode Island parcels as a case study, and (3.) to estimate money measures of value for wetland ecosystem attributes using contingent choice survey methods. Through statistical comparability between these two measures, the investigators will calibrate wetland amenity values.
Updating Prior Methods for Non-Market Valuation: A Bayesian Approach to Combining Disparate Sources on Environmental Values Award: $210,000 Research Area: Ecosystem Valuation	Dr. Joseph Herriges, Iowa State University	The overall goal of this research is to evaluate existing and proposed wetland sites in Iowa. While the overall emphasis is to develop techniques for combining and transferring nonmarket valuations, the issue of wetlands protection and restoration is of particular interest in the Midwest as well as other regions of the country. The values obtained for existing and proposed wetlands in Iowa will serve as prior information for forming comparable values elsewhere in the country.
Valuation of Risks to Human Health: Insensitivity to Magnitude? Award: $377,584 Research Area: Benefits	Dr. James Hammit, Harvard College	The overall goal of this research proposal is to reduce the problem of insensitivity to magnitude variation in Contingent valuation (CV) methods relating to health and environmental studies. At the present time, CV is a popular but controversial method for estimating economic values of non-market goods because of the inadequate sensitivity of CV estimated willingness to pay to the magnitude or scope of the good offered. This project proposes to determine whether and to what extent this insensitivity exists and to develop and test tools for the CV practitioner to reduce the problem of insensitivity to magnitude variation. Two differenct survey methods and various communication tools will be tested to evaluate the efficicacy of the contingent valuation method against the public health issue.

Decision Making and Valuation for Environmental Policy Award: $104,685 Research Area: Ecosystem Valuation	Dr. Jacqueline Geoghegan, Clark University	The goal of this research is to develop and analyze a number of proposed government policies and measure their economic and ecological costs through the integration of two models in the Patuxent Watershed. The research will further develop a hedonic pricing model to perform welfare analysis and ecosystem valuation. The policies that will be analyzed include the use of zoning and other land use. Modeling at this level will contribute to watershed management and will further contribute to the understanding of ecosystem valuation. The information made available from this research can be used to help policy makers and urban planners and can be used to assist in benefit cost analysis of regulatory actions for environmental regulators.
Decision-making Under Uncertainty in the Conservation of Biological Diversity Award: $271,463 Research Area: Ecosystem Valuation	Dr. Andrew Solow, Woodshole Institution	The overall goal of this research is to develop and evaluate methods for setting conservation priories with incomplete information. The investigator will develop and evaluate practical methods for setting conservation prioities with incomplete information about the distribution of species. The methodologies are based on incidence probabilities.The project, using a modified version of the North American Breeding Bird Survey data set, will provide a realistic basis for evaluating the overall performance of analytical framework for conservation decision making.
Valuing Reductions in Environmental Sources of Infertility Risk Using the Efficient Household Framework Award: $170,971 Research Area: Benefits	Dr. George VanHoutven, Research Triangle Institute	The goal of this proposed project is to develop a conceptual framework for assessing the value to society of reducing the risks of infertility associated with exposure to endocrine e disrupters. This project provides a novel and as yet, undeveloped model for valuing environmental risks related to infertility and the willingness to pay by couples and individuals to mitigate those risks.
Effective Environmental Policy in the Presence of Distorting Taxes Award: EPA: $200,000 NSF: $100,000 Total: $300,000 Research Area: Cost	Dr. Dallas Burtaw Resources for the Future	The overall goal of this project is to examine the economics of various approaches to environmental policy, taking into account their interaction with preexisting taxes in the US economy. The theoretical and numerical models developed in the project will be refined through application to the U.S. electric utility industry. The project proposes to investigate the use of tax revenues to subsidize investments in more efficient or less polluting technologies. These topics are of a theoretical and fundamental nature and the research has relevance beyond policies for air pollution.

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Distinguishing Values from Valuation in a Policy Relevant Manner Award: $150,000 Research Area: Decision Making	Dr. Theresa Satterfield, Decision Science Research Institute	This project will attempt to improve methods for values elicitation. Contemporary techniques such as willingness to pay and cost benefit analysis provide a narrow economic measure of value and fail to include emotional or moral content that is at the core of any value. This proposal will develop and utilize three experimental techniques for eliciting values embedded in narratives and discourse, and rich in moral and emotional context. The values elicited by these techniques will be compared to the methods and findings of other researchers interested in environmental values. In the second stage, the findings will be used to measure support for environmental action decisions.
Aggregative and Deliberative Contexts for Valuation: A Philosophical Contribution to Experimental Research in Environmental Decision Making Award: $158,043 Research Area: Decision Making	Mark Sagoff, University of Maryland	The overall goal of this project is to measure the difference between public and private estimations of valuing public goods. The project will examine and compare aggregative and deliberative processes as methods to be used in determining environmental policy. The project will provide inter-disciplinary meta-analyses linking two literatures---economic valuation and deliberative process/construction of values. It will consider the connections between dynamic processes of value construction and impact of values of decision making.
Optimal Experimental Design for Conjoint Analysis Award: $82,563 Research Area: Benefits	Dr. Barbara Kanninen, University of Minneapolis	This project will determine optimal attribute levels and choice sets for conjoint analysis questions that, given a fixed number of observations, will provide the most information possible about parameter estimators of interest such as mean or median willingness to pay. This research will extend the existing literature on optimal design of conjoint analysis survey. It will derive optimal designs as opposed to efficient designs.
The Transition to Green Technology: Implications of Irreversibility and Noncovexity Award: $71,250 Research Area: Costs	Dr. Micheal Toman, Resources for the Future	This research is on the development and adoption of green technology policy tools. This project consists of dynamic modeling of technology adoption decisions taking into account sunk costs, uncertainty and the potential for multiple equilibria.

Factors Influencing Participation of Local Governmental Officials in Environmental Policy Making Award: $119,100 Research Area: Decision Making	Dr. Thomas Webler, Social Science Research Institute	This research explores the factors that influence the decision of local government officials to participate in national and regional policy making and implementation efforts, examining particularly decisions about whether or not and how to participate in environmental policy making initiatives sponsored by EPA.
Policy, Norms and Values in Forest Conservation: Protected Area Buffer Zone Management in Central America Award: $402,116 Research Area: Ecosystem Valuation	Dr. Max Pfeiffer, Cornell University	This project is a study of the role of values in environmental protection behavior of rural people in tropical rainforest areas and will be particularly applicable in solving climate change problems. The project will examine two South American countries to determine their environmental values with respect to deforestation and the relationship of these values to behaviors. The project hypothesis is that the level of affluence does not influence environmental values.

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Note: All grant projects began October 1, 1996 and are funded for one to three years.